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Some North American Botanists.

VI. DR. WILLIAM BALDWIN.

In the southeastern corner of Pennsylvania, just north of the famed Mason and Dixon line, lies the county of Chester, picturesque, historic and fertile, but specially prolific for a century past in cultivators of botanical science. Within its original limits were born the Bartrams, father and son, and within its present limits were born Humphrey Marshall, Dr. William Darlington and his coadjutors David Townsend and Josiah Hoopes, not to mention the Jacksons, father and son, nor the brothers Pierce, who, perhaps, were cultivators rather than botanists.¹

And in the township of Newlin, in this same county, on the 29th of March, 1779, was born William Baldwin, the subject of this sketch. His father, Thomas Baldwin, was a member and an approved minister of the society of "Friends." He gave to the son such rudimentary education as the common schools of the vicinity could furnish. But the youth thirsted for knowledge, and soon became a teacher, daily acquiring for himself and imparting to others such store of information as was at his command. While thus engaged his thoughts were turned to the medical profession, and he became the pupil of Dr. William A.

¹ John Bartram was born at Darby March 23, 1699, and died in 1777. His son William was born at the same place Feb. 9, 1739, and died in 1823. Humphrey Marshall was born at West Bradford Oct. 10, 1722, and died in 1801. John Jackson was born at London Grove Nov. 9, 1748, and died Dec. 20, 1821. William Darlington was born at Dilworthstown April 28, 1782, and died at West Chester April 23, 1863. David Townsend (for whom *Townsendia* was named) was born in Pughtown Dec. 13, 1787, and died in West Chester Dec. 6, 1858. Joshua Hoopes was born in Westtown Feb. 12, 1788, and died at West Chester May 11, 1874. William Jackson, son of John, was born at London Grove Nov. 7, 1789, and died there Oct. 29, 1864. Most of these dates were kindly communicated by Josiah Hoopes, Esq., himself a Chester county botanist.

Todd, of Downingtown, in the same county ; and afterwards, in the winter of 1802-3, attended his first course of medical lectures at the University of Pennsylvania. Here he formed the acquaintance and secured the intimate friendship of Dr. William Darlington, who, while suffering from a severe attack of illness, received from young Baldwin assiduous kindness and attention, which he never forgot. After his first course of lectures at Philadelphia he resumed his studies with Dr. Todd, at Downingtown ; and here he became acquainted with Dr. Moses Marshall, nephew of Humphrey Marshall, the well-known author of "*Arbustum Americanum*," and founder of a botanic garden at Marshallton. The nephew had also some botanical knowledge, and had been of material service to the uncle, both in the establishment of his garden and in the preparation of his work on American Forest Trees and Shrubs. Dr. Marshall seems to have first awakened Baldwin's taste for the study of the vegetable creation ; and the rich collection of indigenous plants in the Marshallton garden served to strengthen this taste, which soon deepened into zeal under the instruction of Dr. Benj. Smith Barton, of Philadelphia.

In 1805 Baldwin received the appointment of surgeon on a merchant ship bound to Canton. Returning from China in 1806, he resumed the medical course at the University of Pennsylvania, and on the 10th of April, 1807, he received the degree of M. D. He selected Wilmington, Del., for the practice of his profession,¹ and soon afterward was married to Miss Hannah M. Webster, of that city, a lady of superior intellectual endowments, and favored with a finished classical education, unusual for that day. At Wilmington he devoted his leisure to the study of the plants of that vicinity, and while there, in 1811, he attracted the attention of Dr. Muhlenberg, of Lancaster, who sought a correspondence with him, which was actively maintained until Muhlenberg's death in 1815. Dr. Darlington has given this correspondence to the world, and the letters on both sides, ninety in all, are characteristic of the respective writers, and illustrative of the formative period of American botany. Botanical students of the present day, supplied with text-books and Floras of the most perfect kind, can hardly realize the difficulties of those early stu-

¹Dr. Baldwin joined the Delaware State Medical Society May 4, 1811, the same year and time at which Dr. Gibbons became a member. Dr. Gibbons was long the Nestor of the medical profession in Wilmington, and was the father of Charles Gibbons, of Philadelphia, and of the Gibbons (brothers) of California, who have been of service to botany there.—*Minutes of Delaware State Medical Society, per Dr. Bush.*

dents, forced, as they were, to grope in the dark for differences between old and new, and perplexed by the conflicting synonymy and imperfect descriptions of the few books then accessible.

Pulmonary weakness forced Dr. Baldwin, in the autumn of 1811, to resort to a milder climate, and he removed to the State of Georgia, residing chiefly at Savannah and St. Mary's. Here was a new and interesting field for botanical research, which he cultivated with great ardor, making long journeys on foot, with knapsack on his back, often entirely alone, penetrating far into the territory of the aborigines, among whom his peaceful principles and gentle bearing secured him a kind reception. In 1812 war with Great Britain interrupted these pursuits and called into use his professional abilities as surgeon of a gunboat flotilla stationed at St. Mary's. For two years he ministered to the sick and distressed with no other aid than that of his wife. After the close of the war he was stationed at Savannah, where he was brought into close and friendly communication with Stephen Elliott, author of the "Sketch of the Botany of South Carolina and Georgia." His correspondence during these years of Southern residence shows that, notwithstanding the interruptions caused by professional labor, and by war's rude alarms, he lost no opportunity for botanical research and for the acquisition of new material.

Near the close of the year 1817, he received an appointment as surgeon of the U. S. frigate Congress, which was to visit Buenos Ayres and other South American ports. His knowledge of natural history led to this appointment, and it was accepted with the hope that his failing health might be restored. His ship touched at Rio Janeiro, Montevideo, Buenos Ayres, Maldonado, San Salvador and Margarita. At all these places he made diligent use of his limited opportunities for collecting, and in the Philadelphia Academy are preserved many of the plants so collected.

From this voyage he returned in July, 1818, rejoining his family at Wilmington. He now bent all his energies to the study of the material collected during his Southern residence, with a view to publication, under the proposed title of "Miscellaneous Sketches of Georgia and East Florida, to which will be added a descriptive catalogue of new plants, with notices of the works of Pursh, Elliott and Nuttall, to which will be added an appendix containing some account of the vegetable productions on the Rio de la Plata, etc." In September he writes Darlington: "I have to inform you that I go on *slowly*, and, I hope, the more surely. It will not do to hurry—there has been too much hurrying among our

botanists. But you may rely upon it, that nothing but death or disease will prevent me from going on steadily. Both interest and knowledge increase as I get along." The Southern *Cyperaceæ* now especially engaged his attention. His letters to Darlington and Collins, at this time, are full of critical notes and minute inquiries relative to the species of *Cyperus*, *Scirpus* and *Rhynchospora*, and he had nearly completed his elaboration of the plants of this order, and was engaged upon the genera *Paspalum* and *Panicum* among the grasses, when he reluctantly laid aside his work at a new and unexpected call. The government was preparing to send out a new expedition for the exploration of the upper Missouri, under the command of Major Long, to be accompanied by a corps of naturalists. Baldwin's friends, Darlington and Leconte, successfully urged his appointment as botanist, and prevailed upon him to accept. Hope of prolonging his failing health doubtless influenced his decision. In March, 1819, he made the journey over the mountains to Pittsburgh, where he joined his fellow-travelers. A small light-draft steam boat had been constructed for the long river voyage; but repeated delays ensued, and it was not till the 5th of May that the departure took place. From the beginning Baldwin seems to have had sad foreboding. On the point of departure he wrote Darlington: "I shall hold out as long as I can. Whether my remains are deposited on the banks of the Missouri or among my kindred at home, is now a matter of little consequence. For the sake of my family and the pursuits I am engaged in, I should wish to live a few years longer." In fact his strength was already failing, and only his enthusiasm and force of will sustained him. The boat proved unsuitable for her work, was leaky, damp and uncomfortable, requiring constant repairs. A stop was made at Cincinnati for a week, partly for repairs and partly on account of the alarming condition of Dr. Baldwin, who remained on shore with his friend Dr. Drake, until he rallied. As the boat made her slow way down the Ohio and up the Mississippi and Missouri, he chafed under the restrictions, both of military rule and of increasing weakness, and in his desire to make the most of the few opportunities allowed him for collecting, he doubtless exhausted his little remaining strength.

The following almost last words written on the 7th of July, have a sad interest: "The mortification and chagrin which I feel in being thus disappointed from time to time in my expectations of doing anything worthy of notice in this expedition, are inexpressible. Perhaps I do not support myself under it as I ought,

and may manifest a disposition too irritable; but when I reflect upon the period of life to which I have attained, the delicate state of health to which I am reduced, without the means of doing anything efficient (I fear) to restore it, the unfinished labors of eight years, which would be almost entirely lost in case of my decease; and, above all, the rising family which look to me for support, I can not but feel anxious." * * * On the 15th of July the expedition reached Franklin, Mo., and here Dr. B. was compelled to leave it. He found a hospitable home at the house of John J. Lowry, and there, September 1st, he died, in his 41st year. He left a wife and four children, the youngest then an infant. The friend who knew him best, says of him: "I have never yet had the happiness to be acquainted with any man of a more amiable and upright character, more faithful in the discharge of his duties, or more zealously devoted to the interests of science and the welfare of his fellow creatures."

Dr. Baldwin's published scientific papers were but two, and these were offered for publication just before starting on his last journey. They are:

1. An account of two North American species of *Rottbællia*, discovered on the seacoast of Georgia. *Am. Jour. Sci. 1st series*, I., 355. 1819.

2. An account of two North American species of *Cyperus*, from Georgia, and of four species of *Kyllingia*, from the Brazilian coast and from the Rio de la Plata. *Trans. Am. Phil. Soc. Phila. New series*, II., 167. Read Apr. 16, 1819.

Fortunately his unpublished memoranda fell into the hands of Dr. Torrey, and though in a crude and fragmentary state, they were used as their author would have wished, as contributions for Dr. Torrey's Monograph of the *Cyperaceæ*, and for Dr. Gray's Monograph of *Rhynchospora* in *Annals of N. Y. Lyceum of Nat. Hist. Vol. III.* His herbarium was purchased by his friend Collins, from whom it went to Schweinitz, who bequeathed it to the Phil. Ac. Nat. Sci.

In preparing this sketch free use has been made of the Memoir prefixed by Dr. Darlington to the "*Reliquiæ Baldwinicæ*," and of the valuable correspondence there found. Other material consulted has been a series of letters from Baldwin to Zaccheus Collins, twenty-one in number, covering the last two years of Baldwin's life, contained in the "Collins Correspondence" in the library of the Philadelphia Academy, and a copy in Collins' hand of the botanical notes made by Baldwin on his last sad journey. See, also, Vol. I. of James' History of Major Long's Expedition, Philadelphia, 1823.

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